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REMARKS

Upon receipt of this response, the Examiner is respectfully requested to contact the undersigned representative of the Applicant to arrange a telephone interview concerning the inventive merits of this application.

Claims 71 and 84-88 are rejected, under 35 U.S.C. § 102(e), as being anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as obvious over Thorp et al. '745. The Applicant acknowledges and respectfully traverses the raised anticipatory and obviousness rejections in view of the following remarks.

Thorp et al. '745 relates to polymer-electrodes for detecting nucleic acid hybridization and a method of use thereof. As taught by Thorp et al. '745 and pointed out by the Examiner, an oligonucleotide probe can be attached to a polymer layer on a conductive working surface and is available to capture a target nucleic acid. This probe can be seen, in Fig. 2, attached to the polymer membrane and through the disclosed process, an oligonucleotide target is then attached to the probe. While there arguably may be some similarities between the currently claimed invention and the cited reference, the Applicant also asserts there are patentably distinct differences as well between the currently claimed invention and the cited reference.

As pointed out above, Fig. 2 clearly teaches a single stranded probe attached to the polymer layer and double stranded, "double helix", target DNA or RNA which is attached to the single strand probe.

According to Examples 3 and 4 of Thorp et al. '745, "DNA probes are coupled to the polymer membranes". Table 1 mentions four different probes but all of them are single-stranded. In column 6, lines 22 to 26, it is mentioned that "inasmuch as the processes utilizing the polymer-electrode of the present invention involve contacting the DNA sample to an oligonucleotide probe to produce a hybridized SNA . . .". It is respectfully submitted that this passage means single-stranded oligonucleotide probes are attached to the polymer-surface and thereafter contacted with a SNA sample to result in a double-stranded DNA. However, such teachings are distinctly different from the presently pending claims of the current application.

The single strand probes, when used as taught by Thorp et al. '745, present difficulties which are overcome with the method claimed according to the present application. In producing the test sites, as taught by Thorp et al. '745, care must be taken when attaching the single-

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stranded oligonucleotides to the surface of the polymer membrane. Probes must be placed on the polymer membrane so that there is a sufficiently large distance between the probes such that hybridization with the target oligonucleotide can occur.

The current claims overcome this problem by attaching a nucleic acid oligomer in the form of the double-strand hybrid. Thorp et al. '745 acknowledges this problem but addresses it in a different manner. In order to provide the necessary space between probes, for hybridization with the target oligonucleotide, Thorp et al. '745 uses a polymer surface having pores which increases the surface area and the distance between probes (column 5, lines 30-35).

It should be noted that the double-strand hybrids shown in Figs 2 and 6 of Thorp et al. '745 are formed after contacting the target nucleic acid with the oligonucleotide probe attached to the polymer layer (column 14, lines 33-37).

The Applicant respectfully submits that due to the fact that Thorp et al. '745 does not even mention a key feature of the present invention, i.e., Thorp et al. '745 does not mention attaching a nucleic acid oligomer in the form of the double-strand hybrid to the support surface, it is respectfully submitted that Thorp et al. '745 is, therefore, totally irrelevant with respect to the claimed subject matter of the present application.

Independent claim 71 of this application recites the features of "the nucleic acid oligomer strand which is complementary to the nucleic acid oligomer or the modified nucleic acid oligomer and applied to a conductive surface and is in the form of the double-strand hybrid and one or more kinds of nucleic acid oligomers in the form of the double-strand hybrid are bound to a conductive surface" while independent claim 84 of this application recites the features of "the nucleic acid oligomer strand which is complementary to the nucleic acid oligomer or the modified nucleic acid oligomer and applied to a conductive surface and is in the form of the double-strand hybrid . . .". Such features are emphasize the above noted distinctions between the presently claimed invention and the applied art and are believed to clearly and patentably distinguish the presently claimed invention from all of the art of record, including the applied art of Thorp et al. '745.

If any further amendment to this application is believed necessary to advance prosecution and place this case in allowable form, the Examiner is courteously solicited to contact the undersigned representative of the Applicant to discuss the same.

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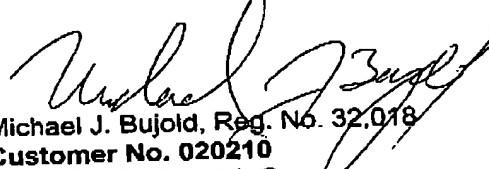
In view of the above amendments and remarks, it is respectfully submitted that all of the raised rejections should be withdrawn at this time. If the Examiner disagrees with the Applicant's view concerning the withdrawal of the outstanding rejections or applicability of the Thorp et al. '745 reference, the Applicant respectfully requests the Examiner to indicate the specific passage or passages, or the drawing or drawings, which contain the necessary teaching, suggestion and/or disclosure required by case law. As such teaching, suggestion and/or disclosure is not present in the applied references, the raised rejection should be withdrawn at this time. Alternatively, if the Examiner is relying on his/her expertise in this field, the Applicant respectfully requests the Examiner to enter an affidavit substantiating the Examiner's position so that suitable contradictory evidence can be entered in this case by the Applicant.

In view of the foregoing, it is respectfully submitted that the raised rejection(s) should be withdrawn and this application is now placed in a condition for allowance. Action to that end, in the form of an early Notice of Allowance, is courteously solicited by the Applicant at this time.

The Applicant respectfully requests that any outstanding objection(s) or requirement(s), as to the form of this application, be held in abeyance until allowable subject matter is indicated for this case.

In the event that there are any fee deficiencies or additional fees are payable, please charge the same or credit any overpayment to our Deposit Account (Account No. 04-0213).

Respectfully submitted,


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